# ORDER FOR SUPPLIES OR SERVICES

PAGE 1 OF 3 PAGES

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

| | |
|---|---|
| 1. DATE OF ORDER: 09/24/2019 | 2. CONTRACT NO. (If any): EP-C-17-046 |
| 3. ORDER NO.: 68HERC19F0286 | 4. REQUISITION/REFERENCE NO.: PR-R8-19-00243 |

**5. ISSUING OFFICE** (Address correspondence to):
CAD
US Environmental Protection Agency
26 West Martin Luther King Drive
Mail Code: W136
Cincinnati OH 45268-0001

**6. SHIP TO:**
a. NAME OF CONSIGNEE: CAD
b. STREET ADDRESS: US Environmental Protection Agency
26 West Martin Luther King Drive
Mail Code: W136
c. CITY: Cincinnati | d. STATE: OH | e. ZIP CODE: 45268-0001

**7. TO:** George Townsend
a. NAME OF CONTRACTOR: TETRA TECH, INC.
b. COMPANY NAME:
c. STREET ADDRESS: 10306 EATON PL STE 340
d. CITY: FAIRFAX | e. STATE: VA | f. ZIP CODE: 22030

f. SHIP VIA:

**8. TYPE OF ORDER**
☐ a. PURCHASE — REFERENCE YOUR: _____
Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.

☒ b. DELIVERY
Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.

9. ACCOUNTING AND APPROPRIATION DATA: See Schedule

10. REQUISITIONING OFFICE: CAD

11. BUSINESS CLASSIFICATION (Check appropriate box(es))
☐ a. SMALL ☒ b. OTHER THAN SMALL ☐ c. DISADVANTAGED ☐ d. WOMEN-OWNED ☐ e. HUBZone
☐ f. SERVICE-DISABLED VETERAN-OWNED ☐ g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM ☐ h. EDWOSB

12. F.O.B. POINT:

| 13. PLACE OF | | 14. GOVERNMENT B/L NO. | 15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) | 16. DISCOUNT TERMS |
|---|---|---|---|---|
| a. INSPECTION | b. ACCEPTANCE | | | |
| Destination | Destination | | 08/04/2020 | |

**17. SCHEDULE** (See reverse for Rejections)

| ITEM NO. (a) | SUPPLIES OR SERVICES (b) | QUANTITY ORDERED (c) | UNIT (d) | UNIT PRICE (e) | AMOUNT (f) | QUANTITY ACCEPTED (g) |
|---|---|---|---|---|---|---|
| | DUNS Number: 198549560<br>This task order award is a result of RFP PR-R8-19-00243. EPA Region 8 303(d) Program Support in accordance with the PWS.<br>TOCOR: JASON GILDEA Max Expire Date: 08/04/2020 InvoiceApprover: JASON GILDEA<br>Continued ... | | | | | |

18. SHIPPING POINT:
19. GROSS SHIPPING WEIGHT:
20. INVOICE NO.:

17(h) TOTAL (Cont. pages): $154,000.00

21. MAIL INVOICE TO:
a. NAME: RTP Finance Center
b. STREET ADDRESS (or P.O. Box): US Environmental Protection Agency
RTP-Finance Center (AA216-01)
109 TW Alexander Drive
www2.epa.gov/financial/contracts
c. CITY: Durham | d. STATE: NC | e. ZIP CODE: 27711

17(i) GRAND TOTAL: $154,000.00

SEE BILLING INSTRUCTIONS ON REVERSE

22. UNITED STATES OF AMERICA BY (Signature): 09/24/2019 — ELECTRONIC SIGNATURE

23. NAME (Typed): Lawrence Edelmann
TITLE: CONTRACTING/ORDERING OFFICER

AUTHORIZED FOR LOCAL REPRODUCTION
PREVIOUS EDITION NOT USABLE

OPTIONAL FORM 347 (Rev. 2/2012)
Prescribed by GSA/FAR 48 CFR 53.213(f)

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

| DATE OF ORDER | CONTRACT NO. | ORDER NO. |
|---|---|---|
| 09/24/2019 | EP-C-17-046 | 68HERC19F0286 |

| ITEM NO. (a) | SUPPLIES/SERVICES (b) | QUANTITY ORDERED (c) | UNIT (d) | UNIT PRICE (e) | AMOUNT (f) | QUANTITY ACCEPTED (g) |
|---|---|---|---|---|---|---|
| | Alt Invoice App: JULIE KINSEY<br>Admin Office:<br>CAD<br>US Environmental Protection Agency<br>26 West Martin Luther King Drive<br>Mail Code: W136<br>Cincinnati OH 45268-0001<br>Period of Performance: 09/24/2019 to 08/04/2020 | | | | | |
| 0001 | EPA Region 8 303(d) Program Support<br><br>Accounting Info:<br>19-20-B-87FT-000B89-2505-1987TE9013-00 1 BFY: 19 EFY: 20 Fund: B Budget Org: 87FT Program (PRC): 000B89 Budget (BOC): 2505 DCN - Line ID: 1987TE9013-001<br>Funding Flag: Complete<br>Funded: $154,000.00<br>Accounting Info:<br>19-20-B-87FT-000B89-2505 BFY: 19 EFY: 20 Fund: B Budget Org: 87FT Program (PRC): 000B89 Budget (BOC): 2505<br>Funding Flag: Complete<br>Funded: $0.00 | | | | 154,000.00 | |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H)) $154,000.00

## LOCAL CLAUSE EPA-F-12-101 PERIOD OF PERFORMANCE

The period of performance of this contract shall be from Award through August 4, 2020 (45 weeks) inclusive of all required reports.

## LOCAL CLAUSE EPA-G-42-101 CONTRACT ADMINISTRATION REPRESENTATIVES

**Task Order Contracting Officers Representatives (CORs)/Project Officers for this contract are as follows:**

Task Order COR (TOCOR): Jason Gildea, gildea.jason@epa.gov PH 406-457-5028

Alternate Task Order COR (Alt TOCOR): Julie Kinsey, kinsey.julie@epa.gov PH 303-312-7065

**Contracting Officials responsible for administering this contract are as follows:**

Contracting Officer: Lawrence Edelmann, US EPA. Cincinnati Acquisition Division, 26 W MLK Dr. MS W136A, Cincinnati, Ohio 45268 edelmann.lawrence@epa.gov

Contract Specialist: Amanda Toole, US EPA. Cincinnati Acquisition Division, 26 W MLK Dr. MS W136A, Cincinnati, Ohio 45268 toole.amanda@epa.gov

# PERFORMANCE WORK STATEMENT
# PR-R8-19-00243

Contract: Technical Support for Assessment & Watershed Protection II

Title: EPA Region 8 303(d) Program Support

Task Order Contracting Officer Representative (TOCOR):
Jason Gildea
406-457-5028
gildea.jason@epa.gov

Alternate Task Order Contracting Officer Representative:
Julie Kinsey
303-312-7065
kinsey.julie@epa.gov

Period of Performance: Award to August 4, 2020 (45 weeks)

## A. PROBLEM STATEMENT AND WORK ASSIGNMENT TASK ORDER DESCRIPTION

The purpose of this task order is to provide contractor support to the EPA Region 8 Clean Water Act (CWA) Section 303(d) Program. Two projects are included in this Task Order: (1) Support for Wyoming DEQ to help complete an accurate, updated, and timely 2020 Integrated Report (IR); and (2) Total Maximum Daily Load (TMDL) model evaluation and stakeholder meeting support for the Bear Creek Reservoir. Each project is described in more detail in the Tasks Section below.

## B. TASKS

### Task 1 – Quality Assurance

All tasks where the Scope of Work includes collection of or use of environmental data, design or construction of technologies, develops or uses models, or may require quality assurance or control will require a Quality Assurance Project Plan (QAPP). Following the notice to proceed, the Contractor shall prepare a project-specific QAPP following G5 and R5 (http://www.epa.gov/quality/qs-docs/g5-final.pdf, https://www.epa.gov/quality/managing-quality-environmental-data-epa-region-8).

The Contractor shall submit the completed Region 8 QA Crosswalk with the QAPP. The form may be found at EPA Region 8's QA website: https://www.epa.gov/quality/managing-quality-environmental-data-epa-region-8.

The QAPP must be approved prior to the initiation of any tasks in this Task Order and will be applicable for the work conducted under this Task Order. The Contractor shall review and update the QAPP as needed to follow project objectives and/or as required by changes in the Task Order SOW using the Region 8 QA Crosswalk

Deliverables:

A single QAPP addressing the proposed activities

## Task 2 – Kickoff Meeting, Reporting and Communication

The Contractor shall participate in a Kickoff Meeting with the TOCOR within 10 days of award of the contract. The Kickoff Meeting with the TOCOR will cover the following topics: points of contact, roles and responsibilities, quality assurance protocols, timelines, the schedule of benchmarks, milestones and deliverables, establish dates and times for monthly calls and monthly technical progress reports and general TO administrative information.

The TOCOR will coordinate and set-up calls between EPA staff and the Contractor's technical lead to discuss the status and progress of the work under this TO as appropriate. Unless told otherwise by the TOCOR, the Contractor shall provide meeting summaries after the calls within five (5) business days in draft form for the TOCOR to review. The TOCOR will provide any edits and/or comments on each meeting summary or approve the meeting summary without change; then the final written meeting summary shall be provided within five (5) business days after receipt of comments from the TOCOR.

The Contractor shall notify the EPA TOCOR of any problems, delays or questions as soon as they arise, including immediate notification of any quality assurance issues and project delays. The Contractor shall provide a monthly progress report in accordance with contract requirements, which will be used for invoice review purposes. The Contractor shall provide additional monthly reports that includes the funding status for each project under this task order and Contractor's technical lead for each project. All reporting shall be provided in accordance with the contract sections G & H: Reporting and Deliverables (General Performance).

Deliverables:

Conference calls and meeting summaries; immediate notification to TOCOR of any delays via email; monthly progress reports; and timely communication.

## Task 3 – Bear Creek Reservoir Modeling and Stakeholder Meeting Support

Bear Creek Reservoir is a 205-acre flood control reservoir located on the confluence of Bear Creek and Turkey Creek within the city limits of Lakewood, CO. It is fed by two tributaries: Bear Creek, a tributary of the South Platte River in central Colorado in the United States, whose source is Summit Lake near Mount Evans, and Turkey Creek. The entire lake (Assessment Unit COSPBE01c_A) is the area of concern for this task order, which will focus on the total phosphorus (TP) and chlorophyll-a (chl-a) impairments. The waterbody has been on Colorado's CWA Section 303(d) list since 2010. These impairments are documented in the State's 2018 Integrated Report and impairment summaries are located at: https://www.colorado.gov/pacific/sites/default/files/93_2018%2803%29.pdf

A Total Maximum Daily Load (TMDL) for TP is currently being developed for the waterbody, and support is needed to:

a. Provide an overall evaluation of the Watershed model and Reservoir model (which were developed by a separate contractor) for the purpose explaining and summarizing the modeling results in a TMDL report.

b. Provide stakeholder meeting facilitation (including note-taking) for a minimum of one stakeholder meeting (and a maximum of two).
c. Recommend nonpoint source implementation options to address the TMDL Load Allocations.

The contractor is tasked with evaluation of the watershed and reservoir models developed by another contractor, for the purposes of providing a summary to include in the TMDL report to explain the modeling results. Additionally, the contractor shall provide meeting coordination and facilitation, including note-taking for a minimum of one stakeholder meeting (and a maximum of two). The contractor shall also analyze the model scenario results and recommend 2 implementation options to address nonpoint source load allocations that would support TMDL implementation.

Black and Veatch contracted with the State beginning in 2017 to develop watershed and reservoir models (based on HSPF and CE-QUAL-W2 models, respectively) to characterize nutrient loading to the reservoir for inclusion in a TMDL for the waterbody. The contractor is expected to complete all work associated with the contract in August of 2019. The model and all associated documentation will be given to the Division at that time. Once the Division has the complete set of documents, they will pass along this information to the Contractor to begin the modeling evaluation and descriptive summarization tasks.

## Task 3a – Model Evaluation and Summary

Watershed and reservoir models will have been completed prior to the work being asked of the contractor. The contractor shall review all model documentation (e.g., modeling report) and results related to the watershed and reservoir models, with a focus on evaluation of the model for purposes of providing a summary of the model's approach and results to be included in the TMDL report in Section 4.1 of the Division's TMDL Template (which will be provided to the Contractor, at contract award). The Evaluation should also identify errors or gaps in the models.

Deliverables:

1. Provide a summary (including one draft version for review) of the watershed and reservoir model assumptions and results for TMDL Section 4.1 - Source Assessment Technical Approach.
2. Provide a brief report on any errors or gaps, if found during the evaluation of the models.

## Task 3b – Develop NPS implementation recommendations based on results from Bear Creek Reservoir Watershed and Reservoir Model scenarios.

The contractor shall review the model scenarios that were run for Bear Creek Reservoir and, working with EPA and Colorado DPHE, shall select one scenario that meets water quality standards (WQS) for the TMDL document. The contractor shall also provide a general summary of recommended NPS activities that would be required to implement that scenario.

The contractor shall develop a summary of recommended NPS implementation options to meet estimated Load Allocations for the Bear Creek Reservoir nutrient TMDL, to be included in Section 8 of the TMDL document – Water Quality Improvement Strategy (found in TMDL Template, provided by the Division).

Deliverables:

1. Summary (including one draft version for review) of recommended NPS implementation options to meet estimated Load Allocations for the Bear Creek Reservoir TMDL, to be included in Section 8 of the TMDL.

### Task 3c – Stakeholder Meeting Coordination, Facilitation and Note-taking Support

The contactor shall coordinate with EPA and CDPHE to facilitate a maximum of two stakeholder meetings (over the period of performance) to describe and discuss the modeling results related to the Bear Creek Reservoir TMDL. The contractor will only be responsible for helping to organize, facilitate, and document the meetings. The contractor will not be responsible for securing space, providing food/beverages, or providing any travel support for stakeholders. The contractor should be expected to send two staff people to each meeting, to be held in Lakewood, Colorado.

Deliverables:

1. Meeting notes from each meeting.

## Task 4 – Wyoming Integrated Report and 303(d) Assessment Support

Wyoming's 2018 Integrated 305(b) and 303(d) Report (IR) is a 223-page Microsoft Word document that includes Word tables representing the 305(b) and 303(d) lists. Wyoming's IR can be difficult to use for several reasons. The supporting assessment records are currently in a variety of different formats and stored in numerous different locations. In the IR, electronic linkages to the supporting assessment records are currently inconsistent and have proven difficult for the public to access. The current Geographic Information System (GIS) is limited to spatial representations of the assessed streams with very limited attribution. A user-friendly interactive map is not available for the public. Data for the 305(b) and 303(d) lists are currently only available within the Environmental Protection Agency's (EPA) Assessment, Total Maximum Daily Load (TMDL) Tracking and Implementation System (ATTAINS); WDEQ does not currently have a database for this type of data storage or analysis. ATTAINS provides limited data analysis and retrieval capabilities below the scale of an assessment unit (e.g., it is not possible to sort the 303(d) list for an individual cause of impairment such as nutrients or sediment). Also, in the absence of a WDEQ database and/or fully attributed GIS it is a challenge to retrieve and/or analyze our assessment results for either planning purposes or in response to questions from the public, other governmental agencies, or other operating units within WDEQ

The goal of this Task is to address these issues and create an improved IR over the next two to four years that:

- makes it easier for other government agencies, stakeholders, and the public to educate themselves about our Clean Water Act programs and the quality of the State's waters,
- makes it easier for WDEQ to access the data for planning, reporting, and analysis purposes,
- and makes it easier for WDEQ to provide quality control and assurance of the 305(b) and 303(d) tables (using a single database, instead of individual tables in Word)

The vision for the future IR includes a summary report, supported by electronically accessible technical appendices, an online integrated list with links to the assessment records, and an interactive web-based online map.

## Task 4a – Spatial Representation of Wyoming's Assessed Lakes and Streams

The stream/river and lake/reservoir shapefiles for Wyoming's *2016/2018 Integrated Report* (DEQ 2018a) do not include metadata. As a result, details regarding scale and resolution, data sources, who created or updated the shapefiles, and use limitations are unknown. It appears that most of the segments are based on NHD – High Resolution, but many appear to be based on NHD – Medium Resolution or some other system.

This task will involve coordinating closely with WDEQ to rebuild Wyoming's assessed stream/river and lake/reservoir shapefiles based on the most recent version of NHD-High Resolution. The objectives are to:

1. Work closely with WDEQ to develop a method for creating a spatial representation of Wyoming's assessed streams and lakes in the NHD environment. The objective is to have NHD event tables that represent the assessed waters to use as the foundation for IR GIS features. The event tables will be what we edit, and feature classes for the data services will be exported for each cycle.
2. Re-build WDEQ's assessed stream and lake shapefiles.
3. Create a GIS tool to facilitate spatial analysis and reporting regarding Wyoming's assessed streams and lakes.
4. Create an interactive map, with links to descriptive information about each stream reach or lake polygon (to be provided by WDEQ) that can be served on WDEQ's website. Ultimately, the goal is to have an ArcGIS Wyoming assessed waters data service that stakeholders and other agencies can use in their own mapping systems.

Deliverables:

1. Methods manual for creating and modifying assessed stream and lake shapefiles[1]
2. Updated assessed stream and lake shapefiles or geodatabase, including metadata (see metadata standard at http://wwdc.state.wy.us/GeoHub/GISStandardsTechMemo.html).
3. Interactive map displaying Wyoming's assessed streams and lakes with links to descriptive information and technical assistance to serve the map on WDEQ's website.

## Task 4b – Automated Assessment System

Federal regulations say states must evaluate "all existing and readily available information" in developing their 303(d) lists every two years. Wyoming does not currently have the time or resources to download all the data uploaded to NWIS by USGS and evaluate it relative to the applicable water quality standards to make use support determinations.

[1]WYGISC has taken on editing and maintaining NHD for WY. Although this may be beyond the scope of this contract, a procedure for communicating necessary NHD edits to WYGISC to improve the representation of Assessed Water features would be helpful. We need to be able to identify features to edit, send proposed edits to WYGISC, and received edited NHD back from WYGISC.

The objective of this task is to develop a user-friendly tool to extract all water quality data from USGS gages in the state of Wyoming and conduct a screening level analysis relative to the applicable water quality standards. The focus of this effort will be on those water quality parameters with numeric criteria (primarily those in Appendix B of Chapter 1: Wyoming's Surface Water Quality Standards).

Tasks to be conducted by the consultant, in close coordination with EPA and WDEQ, include:

1. Research other state's approaches for compiling and analyzing third party data for use support determination purposes.
2. Develop a "rule set" defining which water quality parameters will be evaluated relative to which numeric criteria.
3. Develop a method for conducting a screening-level criteria exceedance analysis.
4. Develop a standard report template.
5. Implement the tool on a statewide basis.
6. Provide a user's manual documenting the approach for extracting data, conducting the exceedance analysis, and describing how to use and trouble shoot the tool.
7. Provide training to EPA and WDEQ on using the tool (phone/webinar based – no travel needed).

Note that this task will be completed after completing the final geodatabase in Task 4a.

Deliverables:

1. Memo summarizing other state's approaches for compiling and analyzing third party data.
2. The assessment tool.
3. User's manual.
4. Results from statewide analysis ("standard report" with brief memo).

# C. SCHEDULE OF BENCHMARKS & DELIVERABLES

| Task | Deliverable | Due Date |
|---|---|---|
| **Task 1** | Final QAPP | 4 weeks after award |
| **Task 2** | Kickoff Conference Call | 1 week after award |
| | Progress Reports | Monthly for life of contract |
| **Task 3a** | Draft TMDL Section 4.1 - modeling summary of assumptions and results, and description of how model is used in TMDL | 8 weeks after receiving the model for evaluation |
| | Final Draft TMDL Section 4.1 - modeling summary of assumptions and results, and description of how model is used in TMDL | 4 weeks after receiving comments on the draft document |
| **Task 3b** | Draft Summary TMDL Section 8 – describing Summary of General Recommendation of implementation approaches | 8 weeks after receiving the model for evaluation |
| | Final Draft of Summary TMDL Section 8 – describing Summary of General Recommendation of implementation approaches | 4 weeks after receiving comments on the draft document |
| **Task 3c** | Meeting Notes | 1 week after each meeting |
| **Task 4a** | Draft methods manual | 8 weeks after award |
| | Final methods manual | 4 weeks after receiving comments on the draft document |
| | Draft geodatabase | 4 weeks after completion of the final methods manual |
| | Final geodatabase | 4 weeks after receiving comments on the draft geodatabase |
| | Interactive map | 8 weeks after completing the final geodatabase |
| **Task 4b** | Third party data memo | 8 weeks after award |
| | Draft assessment tool | 4 weeks after completing the final geodatabase from Task 4a |
| | Final assessment tool | 4 weeks after receiving comments on the draft assessment tool |
| | User's manual | 4 weeks after receiving comments on the draft assessment tool |
| | Analysis of data | 4 weeks after completion of the final assessment tool |
| | Training webinar on the assessment tool | 4 weeks after completion of the Final assessment tool |
| **TOTAL ESTIMATED PROJECT TIMELINE** | 45 weeks from award<br>(Assumes 3 weeks for EPA to providing comments on draft work products, and 4 weeks for project wrap-up) | |

*Weeks are defined as five business days

## D. REPORTING

The Contractor shall participate in status phone calls with the TOCOR on an as-needed basis. The TOCOR will provide the Contractor with a one-week notice of any scheduled status calls. All documentation and reporting under this Task Order shall be in compliance with contract requirements.

The Contractor shall prepare and furnish each month to the TOCOR a written summary of work performed, and progress towards the schedule of benchmarks, deliverables and milestones which has been accomplished each month. The Contractor shall also include in this item a brief written summary of any challenges encountered in the appropriate month.

In addition, the Contractor shall identify and briefly describe in the written monthly report those QA / QC activities which were performed to support implementation of this TO, and furnish a brief written description of: problems encountered, and any deviations were occurred from: the QMP, any QAS, any SOP's, checklists, or other QA guidance, as well as a description of the corrective actions taken.

## E. CONTRACTOR IDENTIFICATION

Contractor personnel shall always identify themselves as Contractor employees by name and organization and physically display that information through an identification badge. Contractor personnel are prohibited from acting as the Agency's official representative.

The Contractor shall refer any questions relating to the interpretation of EPA policy, guidance, or regulation to the TOCOR.

## F. TRAVEL

All travel under this Task Order shall be in compliance with contract requirements and only according to specific written technical direction from the TOCOR. The vast majority of interactions will be conducted through conference calls. When in-person meetings are required, the length of the meetings and the amount of contract personnel needed for each trip will be provided to the contractor through written technical direction from the TOCOR. For planning purposes, the contractor shall assume two in-person meetings over the period of performance.

## G. CONFERENCE/MEETING GUIDELINES AND LIMITATIONS:

The Government does not anticipate formal Conferences/Meetings associated with this effort. The contractor shall immediately notify the EPA Contracting Officer, TOCOR and TOPO of any anticipated event involving support for a meeting, conference, workshop, symposium, retreat, seminar or training that may potentially incur $20,000 or more in cost during performance. Conference expenses are all direct and indirect costs paid by the government and include any associated authorized travel and per diem expenses, room charges for official business, audiovisual use, light refreshments, registration fees, ground transportation and other expenses as defined by the Federal Travel Regulations. All outlays for conference preparation should be included, but the federal employee time for conference preparation should not be included. After notifying EPA of the potential to reach this threshold, the Contractor shall not proceed with the task(s) until authorized to do so by the Contracting Officer.

## G. TECHNICAL DIRECTION

The Contract level TOCOR or an authorized individual is permitted to provide technical direction. Technical direction must be within the statement of work of the contract and includes: (1) Direction to the contractor which assists the contractor in accomplishing the Statement of Work, (2) Comments on and approval of reports or other deliverables. Technical direction will be issued in writing or confirmed in writing within five (5) calendar days after verbal issuance. One copy of the technical direction memorandum will be forwarded to the Contracting Officer and the Contract Level Contracting Officer Representative.